

## **REMARKS**

Claim 1 has been amended. Claims 8-23 have been added. Claims 1-23 are pending in the application.

The amendments to claim 1 are supported by the application as filed and do not present new matter. See, e.g., p. 6, lines 19-35.

New claims 8-23 are supported by the application as filed and do not present new matter:

Claim 1;

p. 4, lines 28-29 (viscosity of the extender being approximately the same as a viscosity of the curd during heating);

p. 5, lines 16-27 (heating curd with closed system processor);

p. 6, lines 19-25 (extruding fiberous mass as continuous rope; cutting extruded continuous rope into sections);

p. 7, lines 13-19 (unidirectional protein structure orientation);

p. 7, line 17 (cutting parallel to direction of protein structure);

p. 6, lines 21-24 (feeding the fiberous mass through water bath prior to cutting and cooling in brine);

p. 6, lines 22-23 (feeding fiberous mass through a water bath to cool mass to temperature of about 110-150 degrees);

p. 6, line 25 (cooling fiberous mass sections in brine having a temperature of about 20-30°F.);

p. 6, lines 27-28 (fiberous mass sections in brine for about 15-90 minutes);

p. 6, lines 29-33 (fiberous mass sections soaked in brine and cooled to about 36 to 45°F.);

p. 6, lines 29-31 (removing the cooled fiberous mass sections from the brine rinsing);

p. 8, line 18 (melting point of about 10 days); and

p. 8, line 18 (shelf life about 60-90 days).

Applicants respectfully request reconsideration of the rejection in view of the above amendment and following remarks.

**I. Independent Claim 1 and Dependent Claims 2-7 Are Patentable Over Thakar and Barz.**

Claims 1-7 are rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 6,475,538 to Thakar *et al.* (“Thakar”) in view of U.S. Patent No. 5,200,216 to Barz, *et al.* (“Barz”). To establish a *prima facie* case of obviousness of a claim under 35 U.S.C. §103(a), all the claim limitations must be taught or suggested by the prior art. All words in a claim must be considered in judging the patentability of that claim against the prior art. MPEP §2143.03. In addition, there must be some suggestion or motivation to modify the reference. MPEP §2143.01

The Applicants respectfully submit that the Thakar and Barz patents cannot support the rejection and respectfully traverse the rejection. In order to expedite prosecution of the application, Applicants offer the above amendments to claim 1 and the following remarks.

**A. Thakar Does Not Disclose or Suggest Cooling Fiberous Mass Sections In Brine.**

Applicants respectfully submit that Thakar does not disclose or suggest “cooling the fiberous mass sections in brine...” as recited in claim 1. In contrast, Thakar describes a process that does not use brine and explains “[t]he conventional brine cooling step normally used in mozzarella cheese production is not used in the present invention.” (Thakar, col. 2, lines 11-13) (emphasis added). “Elimination of ... the brine [sic] tank represents significant advantages in terms of both manufacturing costs and quality control.” (Thakar, col. 2, lines 60-62) (See also, col. 6, line 67 - col. 7, line 2) (emphasis added).

Thakar teaches away from “cooling the fiberous mass sections in brine” as called for by claim 1 in view of Thakar’s description of “significant advantages” that are achieved by eliminating brine, as discussed above.

**B. Thakar Does Not Disclose Or Suggest Processing Without Intermediate Freezing, Cold Storage or Packing.**

Thakar does not disclose or suggest “coagulating, cutting, heating and kneading steps being performed without intermediate freezing, cold storage or packing” as recited in claim 1. In other words, Applicants describe and claim a continuous process. In contrast, Thakar describes a

describes a discontinuous batch process that is interrupted by storing or freezing base curd to form an intermediate product for storage. (Thakar, col. 1, lines 54-57).

Applicants kindly acknowledge that page 2 of the Office action notes the difference between claim 1 and Thakar in this regard.

**C. The Required Suggestion or Motivation to Combine Thakar and Barz Is Lacking Since Thakar Eliminates Brine Processing.**

There is no suggestion or motivation to combine Thakar and Barz. Barz describes the use of a bath of cold brine. (See, e.g., Barz, col. 1, lines 47-49; Fig. 1 (main brine tank); col. 8, lines 9-41 (brine)). Thakar, in contrast, describes a process that eliminates brine. For example, Thakar notes the significance of eliminating brine by explaining that “[i]mportantly, cooling in a conventional brine tank is not required and, more specifically, is eliminated by the practice of this invention.” (Thakar, col. 6, line 67 - col. 7, line 2) (emphasis added). Accordingly, the required suggestion or motivation to combine the references is lacking, and the Office action assertion cannot be supported since it contradicts Thakar.

Moreover, Thakar teaches away from the use of a brine tank and cooling brine since Thakar explains that a brine cooling step is not used and the a brine tank is eliminated. Accordingly, Thakar teaches away from the asserted combination, and also teaches away from “cooling the fiberous mass sections in brine” as recited in claim 1.

**D. The Required Suggestion or Motivation to Combine Thakar and Barz Is Lacking Since Thakar Is Specifically Directed To a Discontinuous Process.**

The Office action asserts that Barz discloses a continuous process, and that a person of ordinary skill in the art would have modified the process described in Thakar so that it would be continuous. The Applicants respectfully disagree.

Thakar, in contrast, describes a process that involves interruptions resulting from the production of an intermediate curd product. In other words, Thakar describes a process which is discontinuous. The required suggestion or motivation to combine Thakar and Barz is clearly lacking, and Thakar teaches away from the asserted combination.

For example, in the Background, Thakar refers to the cited Barz patent (U.S. Pat. No. 5,200,216) as describing “a continuous process of making a mozzarella cheese without aging...” Shortly thereafter, Thakar explains:

“it would be advantageous to provide improved processes in which an intermediate product could be formed which can be stably stored until it is desired that the finished mozzarella cheese is to be prepared. The present invention provides such improvement, as well as other improvements, in the production of mozzarella cheese.” (Thakar, col. 1, lines 53-59) (emphasis added).

Thus, Thakar specifically distinguishes Barz on the basis that Barz describes a continuous process, which does not provide for stably storing intermediate product.. Since Thakar notes the shortcomings of such a combination. Thus, there is no suggestion or motivation to make the asserted combination.

Moreover, Thakar explains that intermediate storage capabilities are particularly beneficial since the curd “may be stored for extended period under frozen or refrigerated conditions” and that storing curd in this manner presents “an economic advantage” since curd may be produced during various times of the year. (Thakar, col. 2, lines 26-46) (emphasis added). Further, claim 1 of Thakar calls for “(5) storing the base curd under refrigeration or frozen conditions for a period of time until it is desirable to complete production of the mozzarella cheese, wherein the period of time is at least 14 days” (emphasis added). Thus, Thakar contradicts the Office action assertions.

Applicants acknowledge that Thakar explains that a base curd is frozen or refrigerated and stored “until needed” as cited in the Office action. However, Thakar explains that the base curd is stored in containers, and “[w]hen it is desired to prepare the final cheese, the base curd is removed from the containers” and further processed. Thakar, col. 4, lines 55-58 (emphasis added).

Accordingly, regardless of when the curd may be “needed,” it is nevertheless stored in containers, and subsequently removed from the containers when needed. Therefore, Thakar is specifically directed to a discontinuous process, i.e., a process that necessarily involves interruptions and the formation of intermediate products by storing based curd in containers. Correspondingly, the Office action assertion that Thakar could be modified to operate as a

continuous process contradicts Thakar's criticism of Barz, and the required suggestion or motivation to combine the references and modify Thakar cannot be supported by Thakar.

Thakar also teaches away from "the coagulating, cutting, heating and kneading steps being performed without intermediate freezing, cold storage or packing" in view of the asserted benefits of a discontinuous process and formation of an intermediate base curd as described by Thakar.

**E. Claims 1-7 Are Patentable Over Thakar and Barz.**

In view of the forgoing amendments and remarks, Applicants respectfully submit that independent claim 1 is patentable over the cited references and that the rejection of claim 1 under 35 U.S.C. §103(a) be withdrawn. Further, Applicants respectfully request that dependent claims 2-7, which incorporate the elements and limitations of independent claim 1 and recite further novel and nonobvious limitations thereto, are also patentable over Thakar and Barz.

**II. New Dependent Claims 8-20 and New Independent Claims Are Patentable Over Thakar and Barz.**

Applicants respectfully submit that dependent claims 8-20, which incorporate the elements and limitations of independent claim 1 and recite further novel and nonobvious limitations thereto, are also patentable over Thakar and Barz.

Further, Applicants respectfully submit that Thakar teaches away from claim limitations involving cooling with brine and related brine processing steps, as discussed above in section I..A. For example, claim 14 calls for the fiberous mass being cooled to a temperature of about 110-150 degrees within the water bath. Claim 15 calls for the fiberous mass sections in brine having a temperature of about 20-30°F. Claim 16 calls for cooling the fiberous mass sections in brine for about 15-90 minutes, and claim 17 calls for fiberous mass sections being soaked in brine and cooled to a temperature of about 36 to 45°F. Claim 18 calls for removing the cooled fiberous mass sections from the brine.

**III. New Independent Claims 21-23 Are Patentable Over Thakar and Barz.**

Independent claims 21 and 22 include "brine" limitations. Claim 23 is the same as claim 1 before the current amendment. Applicants respectfully submit that claims 21-23 are allowable in view of the foregoing remarks.

**IV. Conclusion.**

Applicants respectfully request that the application is in condition for allowance and respectfully request that a timely Notice of Allowance be issued in this case. If there are any remaining issues that can be resolved by telephone, Applicants invite the Examiner to contact the undersigned at the number indicated below.

Respectfully submitted,

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